CLAIMS

1. A method for handling resources in purpose to avoid congestion in a cellular radio system, comprising at least one mobile terminal (1) connectable to a network via at least one base station (3,5,7,9,11,13; 50), **characterised by** the steps of:
   - receiving in the at least one base station (3,5,7,9,11,13; 50) a signal sent from a mobile terminal (1), the receiving in different base stations (3,5,7) corresponding to different radio paths (uplinks) of the signal;
   - deriving from these uplinks a resulting signal corresponding to the signal sent from the mobile terminal (1);
   - determining the importance of each uplink to the resulting signal;
   - deciding according to the determination which downlinks that should be given less power or be removed if there is, or is about to be, a shortage of resources, in purpose to free resources;
   - controlling the power of the decided downlinks if there is, or is about to be, a shortage of resources.

2. A method according to claim 1, **characterised by** deciding according to the determination how the signal processing resources should be distributed for the receiving of different uplinks and by controlling, according to the decision, the signal processing resources for the receiving of different uplinks.

3. A method according to claim 1 or 2, **characterised in that** the deriving and determining steps are carried out in at least one node (30; 52) in the network, the node (30; 52) being connected to the at least one base station (3,5,7,9,11,13; 50).

4. A method according to claim 3, **characterised by** informing the at least one base station (3,5,7,9,11,13; 50) about the importance of each uplink to the resulting signal.

5. A method according to claim 3, **characterised by** receiving the information from the node (30; 52) in each base station (3,5,7,9,11,13; 50).

6. A method according to any one of the preceding claims, **characterised in that** the deciding and the controlling are carried out in each base station (3,5,7,9,11,13; 50).

7. A method according to any one of the preceding claims, **characterised in that** the controlling also includes reallocation of codes for downlinks that have been removed to new connections if there is, or is about to be, a lack of codes.

8. A method according to claim 4 and 5, **characterised in that** the informing and receiving of information also includes informing and receiving information about which codes that are used for the connections and/or about which downlinks from the different base stations that are most important for the resulting signal in the mobile terminal, this additional information being considered when making the decision in the base stations of which downlinks that should be given less power or be removed if there is, or is about to be, a shortage of resources, in purpose to free resources.

9. A method according to any one of the preceding claims, **characterised by** receiving the needed information in the base stations (3,5,7,9,11,13; 50) from the node (30; 52) in a header of a packet, the packet containing the payload for each connection respectively.

10. A method according to claim 9, **characterised by** receiving the needed information in the base stations (3,5,7,9,11,13; 50) as an answer to every signal sent to the node (30; 52) from the base stations (3,5,7,9,11,13; 50).

11. A method according to claim 9 or 10, **characterised by** combining and evaluating the pieces of information in the base station (50).

12. A method according to any one of the preceding claims, **characterised in that** the deriving from the uplinks of a resulting signal corresponding to the signal sent from the mobile terminal (1) is performed by combining the different uplinks into one signal.

13. A device (31;54) in a cellular radio system, the system comprising at least one mobile terminal (1) connectable to a network via at least one base station (3,5,7,9,11,13; 50), the at least one base station (3,5,7,9,11,13; 50) being connected to the network via at least one node (30; 52), **characterised in that** the device (31; 54) is adapted to control the power of downlinks between a base station (3,5,7,9,11,13; 50) and the at least one mobile terminal (1) when there is, or is about to, be a shortage of resources in the base station (3,5,7,9,11,13; 50) in purpose to free resources, the device being adapted to be placed in the base station (3,5,7,9,11,13; 50) and comprises:

- receiving means (32; 56) adapted to receive information about how important the different uplinks coming into the base station from different mobile terminals are to the total signals, which are derived in the node (30; 52) from uplinks originating from the same mobile terminal (1);
- decision means (34; 58) connected to the receiving means (32; 56) adapted to decide locally in the base station (3,5,7,9,11,13; 50) according to the information received from the node (30; 52) which downlinks that should be given less power or be removed if there is or is about to be a shortage of resources in the base station;
- power controlling means (36; 59) connected to the decision means (34; 58) adapted to control the power for the decided downlinks in case of a shortage of resources.

14. A device according to claim 13, **characterised in that** the decision means (34;58) also is adapted to decide locally in the base station (3,5,7,9,11,13; 50) according to the information received from the node the distribution of signal processing resources in the receiving of different uplinks and in that the device also comprises receiving resources controlling means (60) adapted to control the signal processing resources for receiving of the different uplinks according to the decision taken in the decision means (34;58).

15. A device according to claim 13 or 14, **characterised in that** the power controlling means (36; 59) also is adapted to reallocate the code for a removed downlink to a new connection if there is, or is about to be, a lack of codes.

16. A device according to any one of the claims 13-15, **characterised in that** the receiving means (32;56) also is adapted to receive from the node (30; 52) information about which codes that are used for the connections and/or information about which downlinks from the different base stations (3,5,7,9,11,13; 50) that are most important for the resulting signal in the mobile terminal (1), this additional information together with the information about the uplinks being used in the decision means (34;58) for making the decision about which downlinks that should be given less power or be removed if there is, or is about to be, a shortage of resources, in purpose to free resources.

17. A device according to any one of the claims 13-16, **characterised in that** the receiving means (32; 56) is adapted to receive the needed information from the node (30; 52) in a header of a packet, the packet containing the payload for each connection.

18. A device according to claim 17, **characterised in that** the receiving means (32; 56) is adapted to receive the needed information as an answer to every signal sent to the node (30; 52) from the base stations (3,5,7,9,11,13; 50).

19. A device according to claim 17 or 18, **characterised in that** it comprises combining means (61) and evaluating means (62) for combining and evaluating the pieces of information.

20. A node (30; 52) in a network in a cellular radio system, the node (30; 52) being connectable to at least one base station (3,5,7,9,11,13; 50), which can connect to and receive uplinks from at least one mobile terminal (1), the node (30; 52) being adapted to receive these uplinks from the base stations (3,5,7,9,11,13; 50) connected to the node (30; 52) in a receiving means (40;40') and derive in a deriving means (41; 41') a resulting signal from the uplinks originating from the same mobile terminal (1), **characterised in that** it comprises:

- determination means (42; 42') adapted to determine the importance of each received uplink to the resulting signals;
- informing means (44; 44') connected to the determining means (42; 42') adapted to inform each base station concerned about this determination.

21. A node according to claim 18, **characterised in that** the receiving means (40,40') is adapted to receive information about pilot signal measurements made in the mobile terminals, this information giving knowledge to the node (30;52) about the quality of the different downlinks.

22. A node according to claim 18 or 19, **characterised in that** the informing means (44; 44') also is adapted to inform each base station (3,5,7,9,11,13; 50) about which codes that are used for the connections and/or information about which downlinks from the different base stations that are most important for the resulting signal in the mobile terminal (1).

23. A node according to any one of the claims 18-20, **characterised in that** the informing means (44; 44') is adapted to send the information to the base stations

(3,5,7,9,11,13; 50) in a header of a packet, the packet containing the payload for each connection respectively.

24. A node according to claim 21, **characterised in that** the informing means (44; 44') is adapted to send the needed information as an answer to every signal received from the base stations (3,5,7,9,11,13; 50).

25. A node according to any one of the claims 18-22, **characterised in that** the deriving means (41; 41') is adapted to from the uplinks derive a resulting signal corresponding to the signal sent from the mobile terminal (1) by combining the different uplinks into one signal.

26. A node according to any one of the claims 18-23, **characterised in that** it is a Radio Network Controller (RNC).

27. A base station (3,5,7,9,11,13; 50) in a cellular radio system, the base station (3,5,7,9,11,13; 50) being connected to a network and connectable to at least one mobile terminal (1), **characterised in that** it comprises a device according to claim 12-17.

28. A mobile communication network comprising at least one base station (3,5,7,9,11,13), **characterised in that** the base stations (3,5,7,9,11,13; 50) each comprises a device (31; 54) according to any one of the claims 12-17 and the base stations (3,5,7,9,11,13; 50) being connected to the network through a node (30; 52) according to any one of the claims 18-24.